

ISSUE 1; December 2023

### Description

- Voltage controlled crystal oscillator (VCXO) in a ceramic package with a hermetically sealed metal lid.
- Developed Frequencies: 12.288MHz, 24MHz



### Frequency Parameters

- Frequency: 1.0MHz to 52.0MHz
- Frequency Stability:  $\pm 25.00\text{ppm}$
- Ageing:  $\pm 3\text{ppm}$  max per year @ 25°C
- Frequency Stability over operating temperature range: inclusive of tolerance at 25°C  $\pm 3^\circ\text{C}$

### Electrical Parameters

- Supply Voltage: 3.3V  $\pm 10\%$
- Start Up Time: 10ms max

### Frequency Adjustment

- Pulling:  $\pm 100\text{ppm}$  min
- Control Voltage: 1.65V  $\pm 1.5\text{V}$
- Input Impedance: 2M $\Omega$  min
- Slope: Positive
- Linearity:  $\pm 10\%$  max

### Operating Temperature Ranges

- -40 to 85°C

### Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF max
- Output Voltage High: 90%Vs min  
Output Voltage Low: 10%Vs max

### Output Control

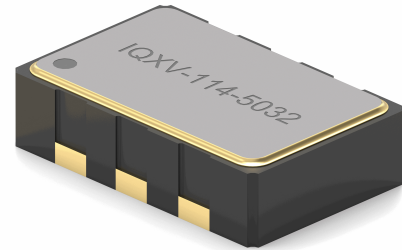
- Enable/Disable:  
Logic '1' (>70% Vs) to pad 2 enables oscillator output.  
Logic '0' (<30% Vs) to pad 2 disables oscillator output; the oscillator output goes to the high impedance state.  
No connection to pad 2 enables oscillator output.  
Current when in E/D mode: 2mA max @ 25°C

### Noise Parameters

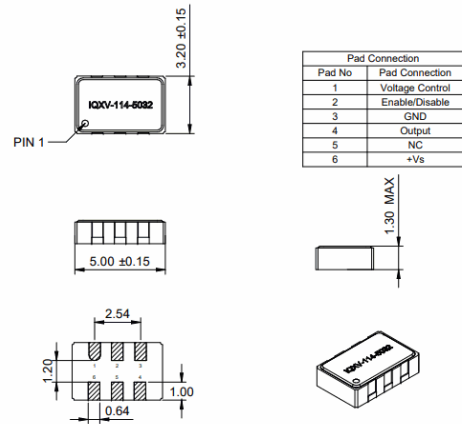
- Phase Noise (typ @ 25MHz & @ 25°C):  
-79dBc/Hz @ 10Hz  
-114dBc/Hz @ 100Hz  
-132dBc/Hz @ 1kHz  
-145dBc/Hz @ 10kHz  
-150dBc/Hz @ 100kHz  
-152dBc/Hz @ 1MHz

### Environmental Parameters

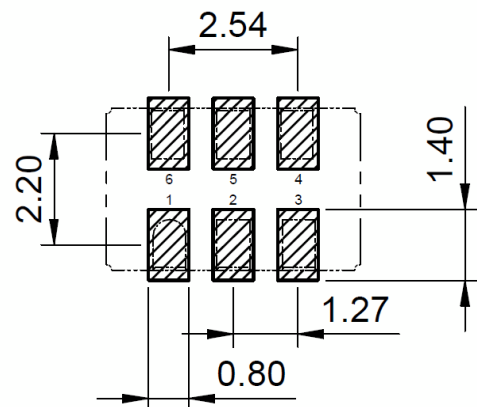
- Storage Temperature Range: -55 to 125°C
- Vibration (MIL-STD-883F:2007.3): frequency range 20~2000Hz, pk-pk amplitude 1.52mm, peak acceleration 20g, sweep time 20minutes/axis, total test time 4 hours.
- Drop Test (JIS-C0044): specimen is dropped from a height of 75cm min as a free fall object onto a hard wooden plate of 30mm min thickness.



### Outline (mm)



### Recommended solder pad layout



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**Manufacturing Details**

- RoHS Terminations            Ni 1.27µm~8.89µm, Au  
   0.3µm~1.0µm
- RoHS Reflow                     260°C max peak, 255°C for 30s  
   max

**Ordering Information**

- Frequency\*  
 Model\*  
 Output  
 Frequency Stability (over operating temperature range)\*  
 Operating Temperature Range\*  
 Supply Voltage  
 Pullability  
 (\*minimum required)
- Example  
 20.0MHz IQXV-114-5032 3.3V  
 CMOS ±25ppm -40 to 85C ±100ppm min

**Compliance**

- RoHS Status (2015/863/EU)    Compliant
- REACH Status                    Compliant
- MSL Rating (JDEC-STD-033):   1

**Packaging Details**

- Tape & reel in accordance with EIA-481  
 Quantities below the standard reel size to be supplied on cut  
 tape.  
  
 Standard Reel Quantity: 1,000 Pieces

**Electrical Specification - maximum limiting values 3.3V ±10%**

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time (10-90%)	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	52.0MHz	-40 to 85	±25.0	30	5	40/60

*This document was correct at the time of printing; please contact your local sales office for the latest version.*  
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